FLI-1200 Series Hardware Manual

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www.moxa.com/product

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FLI-1200 Series Hardware Manual

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Technical Support Contact Information

www.moxa.com/support

Moxa Americas
Toll-free: 1-888-669-2872
Tel: +1-714-528-6777
Fax: +1-714-528-6778

Moxa China (Shanghai office)
Toll-free: 800-820-5036
Tel: +86-21-5258-9955
Fax: +86-21-5258-5505

Moxa Europe
Tel: +49-89-3 70 03 99-0
Fax: +49-89-3 70 03 99-99

Moxa Asia-Pacific
Tel: +886-2-8919-1230
Fax: +886-2-8919-1231

Moxa India
Tel: +91-80-4172-9088
Fax: +91-80-4132-1045

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1

Introduction

Thank you for choosing Moxa's FLI-1200 industrial auto-configuration server appliance system. The FLI-1200's auto-configuration or other industrial applications are designed to make your operation more efficient. In this manual, we show you how to install the hardware so that users can easily start using FLI-1200 devices.

The following topics are covered in this chapter:

- **Overview**
- **Package Checklist**
- **Product Features**
- **Hardware Specifications**

Overview

Moxa's FLI-1200 is an industrial auto-configuration server appliance designed to automatically configure and monitor various Moxa products used in harsh industrial environments.

The FLI-1200 has a fanless, thermally efficient, dust- and water-protected IP54-rated chassis. This sealed enclosure protects the internal components from dust and splashed water. In addition, the FLI-1200 is compliant with EN 50155, covering operating temperature, power input voltage, power surges, ESD, and vibration, ensuring that the FLI-1200 will operate reliably in the kind of temperature and vibration extremes common to rolling stock applications.

The FLI-1200 comes with Moxa's FLI technology, which ensures that when any Moxa FLI-enabled device is replaced or deployed, you do not need to manually reconfigure the device. The FLI-1200's web-based user interface makes it easy for users to manage the system, and also monitor the status of any device under the control of the FLI-1200. The FLI-1200 is designed to provide a high level of redundancy. For starters, if one of the FLI-1200's Ethernet connections fails, the other connection can take over automatically. In addition, two FLI-1200s can be used in tandem so that if one of the FLI-1200s fails, the other FLI-1200 will take over automatically and perform primary system functionality. As you can see, the FLI-1200 can help users maintain Moxa's products efficiently and effectively, reducing maintenance costs and eliminating most human errors.

Package Checklist

The FLI-1200 Series includes the following models:

FLI-1260-CT-T: Industrial auto-configuration server appliance with 2 M12 10/100 Mbps PoE/PoE+ LAN ports, -40 to 70°C operating temperature, conformal coating

FLI-1260-T: Industrial auto-configuration server appliance with 2 10/100 M12 PoE/PoE+ LAN ports, -40 to 70°C operating temperature

Each model is shipped with the following items:

- Wall mounting kit
- Quick installation guide (printed)
- Warranty card

NOTE Please notify your sales representative if any of the above items are missing or damaged.

Product Features

- Marvell 1.0 GHz processor
- Industrial auto-configuration server appliance
- 2 10/100 Mbps Ethernet ports for network redundancy
- Compliant with EN 50121-4 and essential sections of EN 50155
- IEC 61373 certified for shock and vibration resistance

Hardware Specifications

Computer

CPU: Marvell 1.0 GHz 88F6281
DRAM: 512 MB DDRII
Flash Memory: Onboard 2 GB USB DOM to store OS

Digital Input

Input Channels: 2, source type
Input Voltage: 0 to 30 VDC at 25 Hz
Digital Input Levels for Dry Contacts:
- **Logic level 0:** Close to GND
- **Logic level 1:** Open

Digital Input Levels for Wet Contacts:
- **Logic level 0:** +3 V max.
- **Logic level 1:** +10 V to +30 V (COM to DI)

Connector Type: M12 A-coded female
Isolation: 3 kV optical isolation

Ethernet Interface

LAN: 2 auto-sensing 10/100 Mbps ports (M12 D-coded)

LEDs

System: LAN1, LAN2, Act., Ready
LAN: 100M/Link x 2

Physical Characteristics

Housing: Aluminum
Weight: 1.98 kg
Dimensions: 252 x 130 x 57 mm (9.92 x 5.12 x 2.24 in)
Mounting: Wall
IP Rating: IP54

Environmental Limits

Operating Temperature: -40 to 70°C (-40 to 158°F)
Storage Temperature: -40 to 85°C (-40 to 185°F)
Ambient Relative Humidity: 5 to 95% (non-condensing)
Anti-vibration: EN 50155
Anti-shock: EN 50155

Power Requirements

Input: PoE (IEEE 802.3af), PoE+ (IEEE 802.3at) or 24 VDC
Power Consumption:
- **PoE:** 14.4 W
- **24 VDC:** 13.2 W

Standards and Certifications

Safety: UL 60950-1
EMC: EN 55022 Class A, EN 61000-3-2, EN 61000-3-3, EN 55024
Rail Traffic: EN 50155, EN 50121-3-2, IEC 61373
Green Product: RoHS, CRoHS, WEEE
EMI: FCC Part 15 Subpart B Class A, CISPR 22:2008

Warranty

Warranty Period: 5 years (storage drive not included)
Details: See www.moxa.com/warranty

Note: These hardware specifications describe the FLI-1200 unit itself, but not its recommended accessories. In particular, the wide temperature specification does not apply to accessories such as power adapters and cables.

2

Detailed Hardware Description

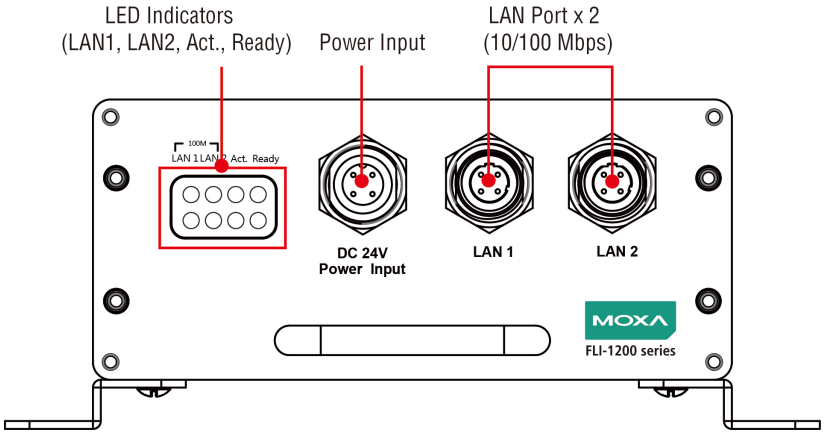
In this chapter, we introduce the hardware of the FLI-1200, including appearance, product dimensions, and LED indicators.

The following topics are covered in this chapter:

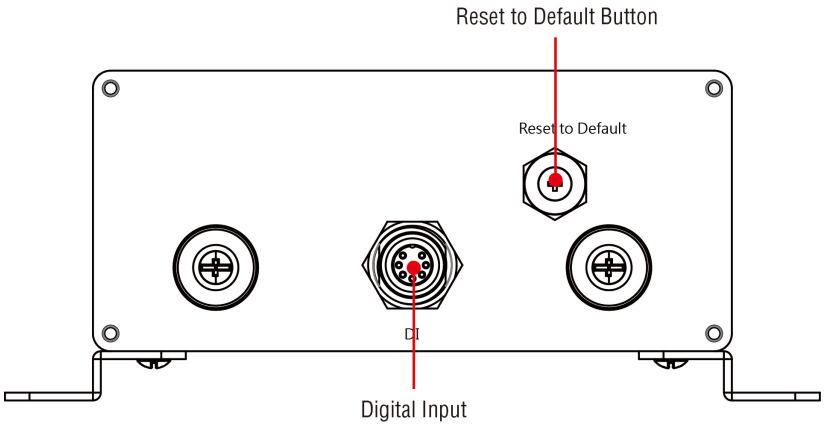
- **Hardware Layout**
  - Front View
  - Rear View
- **Dimensions**
- **LED Indicators**
- **Real Time Clock**

Hardware Layout

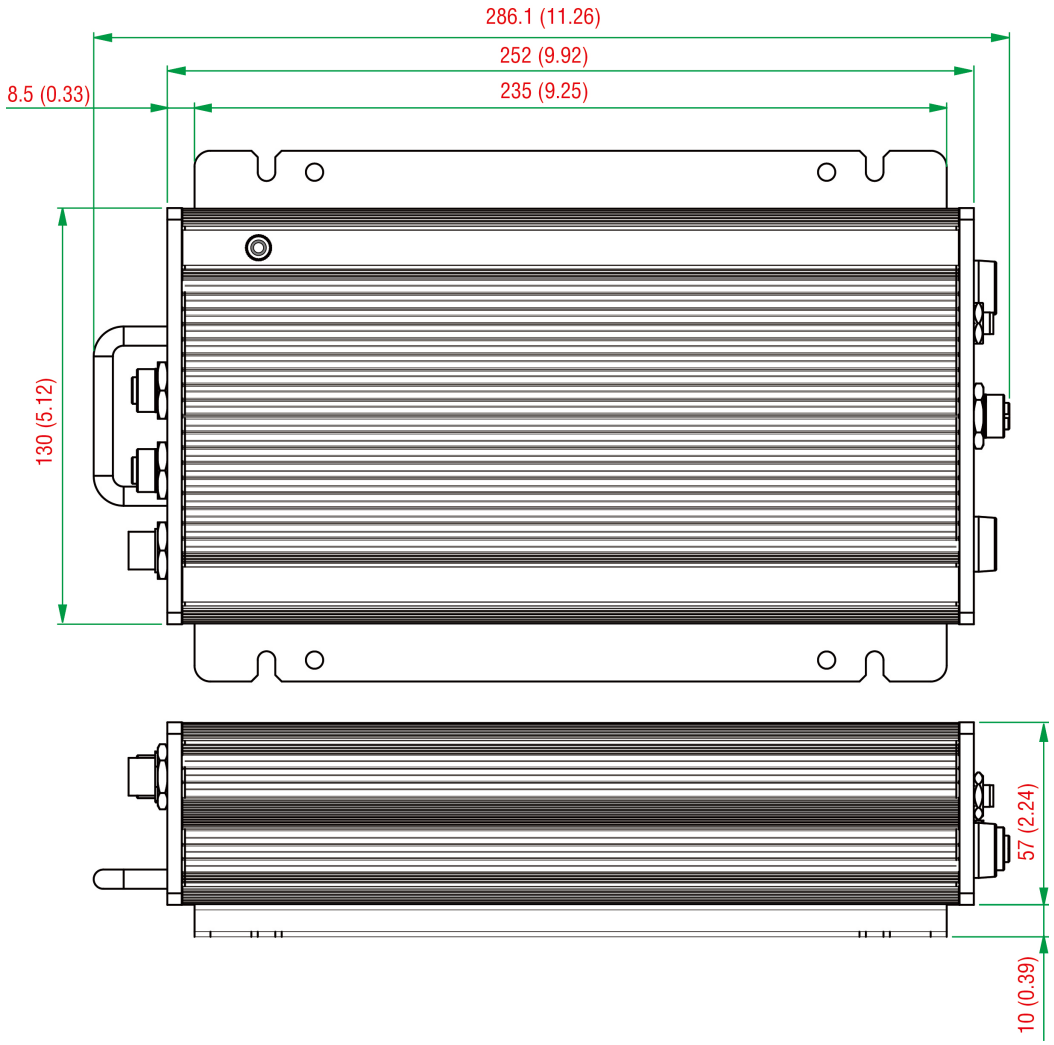
Front View



Rear View



Dimensions



LED Indicators

LED Name	LED Color/Status	LED Function
Ready	Green	System is ready
	Blinking once per second	Reset to default
	Off	System is not ready
LAN (1, 2)	Green, blinking	100 Mbps Ethernet mode
	Off	No Ethernet activity or operating at 10 Mbps
Act.	Red	This FLI-1200 is acting as the master FLI server
	Off	This FLI-1200 is not acting as master FLI server

Real Time Clock

The embedded FLI-1200's real-time clock is powered by a lithium battery. We strongly recommend that you **NOT** replace the lithium battery on your own. If the battery needs to be changed, contact the Moxa RMA service team at http://www.moxa.com/rma/about_rma.aspx.

WARNING

There is a risk of explosion if the wrong type of battery is used. To avoid this potential danger, always be sure to use the correct type of battery. Contact the Moxa RMA service team if you need to replace your battery.

CAUTION

Dispose of used batteries according to the manufacturer's instructions, and be aware that local ordinances may require special handling as a hazardous substance.

3

Hardware Setup

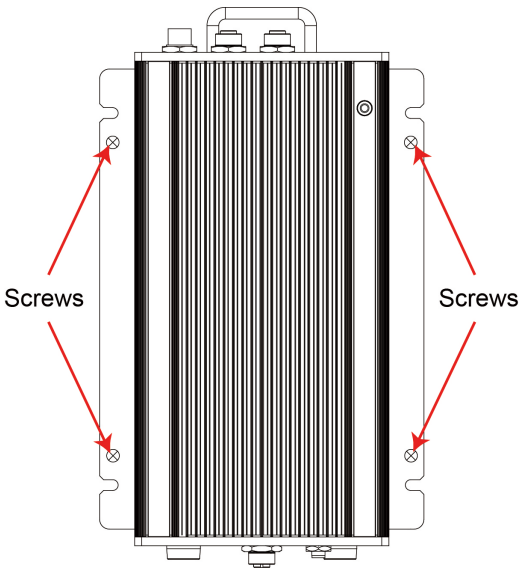
In this chapter, we show how to connect the FLI-1200 to the network and to various devices.

The following topics are covered in this chapter:

- **Mounting the FLI-1200 on a Wall or Cabinet**
- **Connecting the Power**
- **Connecting to the Network**
- **Connecting to the DI Port**
- **Installing the FLI-1200 Wallmount Case**

Mounting the FLI-1200 on a Wall or Cabinet

To mount the FLI-1200 to a wall or cabinet, use the screws provided with the product to attach the mounting brackets to the FLI-1200's housing, as illustrated in the following figure.

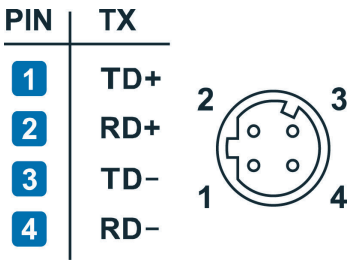


Connecting the Power

The FLI-1200 can be powered by PoE (Power over Ethernet) through the Ethernet cable, or by connecting it to a 24 VDC adapter. Once the system is fully powered and initialized, the **Ready** LED will light up.

Connecting to the Network

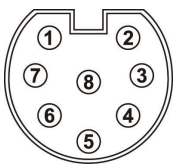
The 10/100 Mbps Ethernet LAN ports use 4-pin M12 connectors. The diagram at the right shows the pinouts for these ports. To connect to the network, plug a 4-pin M12 Ethernet cable into one of the FLI-1200's M12 Ethernet ports, and then plug the other end of the cable into an Ethernet switch or router. When the cable is properly connected, the LEDs on the FLI-1200's Ethernet port will light up, indicating that a valid connection has been established.



Connecting to the DI Port

Two DIs using M12 A-coded connectors are located on the rear panel. The pin assignments are shown in the following figure and table.

PIN	DIO
1	–
2	–
3	GND
4	DI_1
5	–
6	DI_0
7	DI_SOURCE
8	–

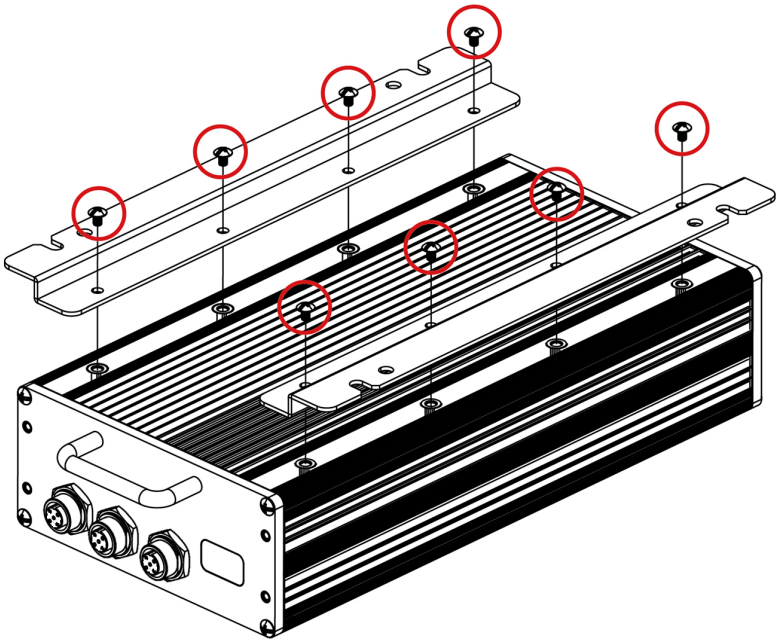


Installing the FLI-1200 Wallmount Case

An optional kit with metal wallmount case is available for the FLI-1200. The kit includes the case itself, two long rails to replace the wallmount ears, and two brackets (plus four screws) to attach to the top of the FLI-1200.

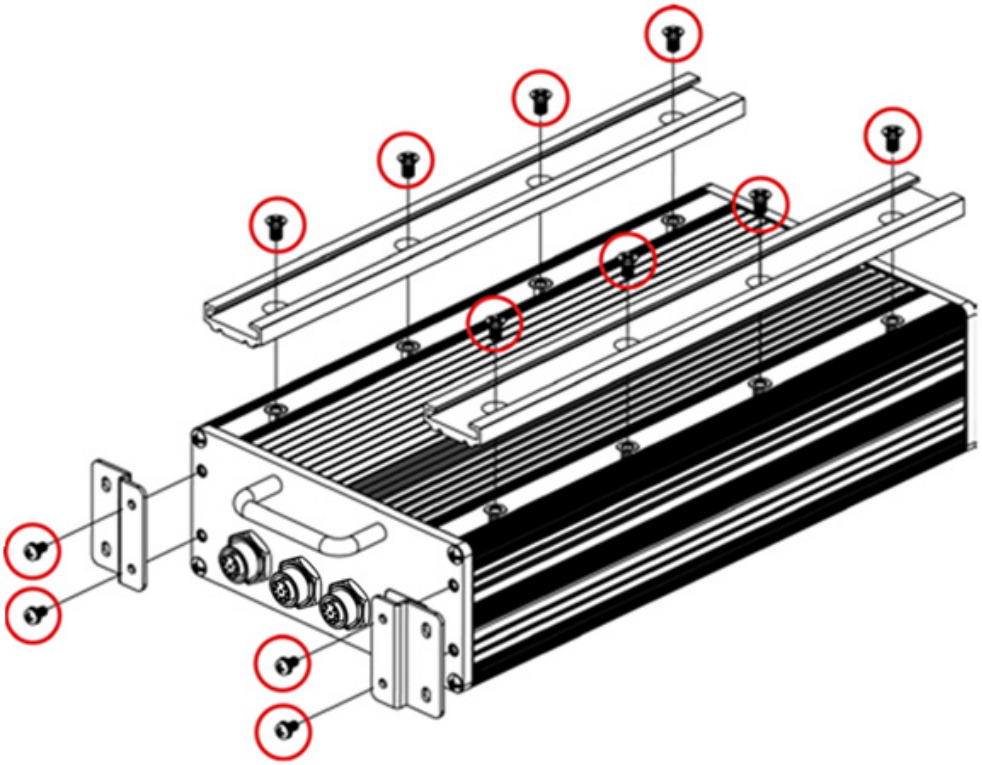
Take the following steps to install the wallmount case:

Step 1: Remove the eight screws that fasten the wallmount ears to the RNAS-1200.

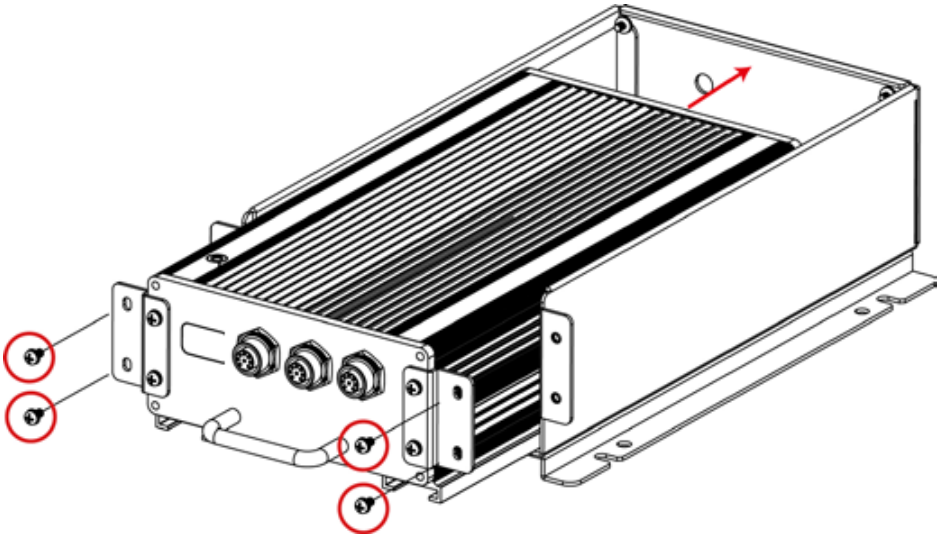


Step 2: Use the same eight screws to attach the two long rails to the FLI-1200. The rails will run the length of the device.

Step 3: Fasten the brackets to the top of the FLI-1200 using the four screws provided.



Step 4: Align the rails with the tracks of the metal case and slide the FLI-1200 into the case.



Step 5: Fasten the case to the two brackets.